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vertically oriented and at a desired depth in soil. The skirt member also collects condensation, which typically occurs between the soil and the skirt-member. The skirt member 48 is generally circular, having an outwardly and downwardly extending main portion 49 for directing the condensation away from the housing body 12, and a downwardly projecting flange portion 50 for imparting stiffness to the skirt member, which is also formed with a central opening for passage of an upper portion of the housing body 12. The outwardly directed condensation advantageously creates an enlarged moisture barrier around the housing 12, thereby enhancing the attraction of termite activity to the monitor apparatus 10.

The body 12 is formed with an outwardly projecting skirt lip 52 which rests on the skirt member 48, the skirt member resting on the ground and being retained on the body 12 against the lip 52 by the weight of the body 12 and the other components of the apparatus 10. A main cap 54 covers the top of the body 12 and the barrier members 42 for shedding moisture that might fall on the apparatus 10, the main cap 54 having a central opening 55 for exposing the flag cavity 28, the flag member 24 extending partway through the opening 55 in the first position thereof. The main cap is upwardly convex for enhancing the shedding of moisture, and for smoothly deflecting passing objects such as lawnmowers and the like that may be used in the vicinity of the apparatus 10. The flag member 24 is exposed by extending through the main opening 55 in the second position thereof, upward movement of the flag member being limited by the stop ring 32 contacting the underside of the main cap 55. In the exemplary configuration of the apparatus 10 as shown in the drawings, the housing body 12 is generally triangular in cross-section. Of course, there can be other numbers of the side walls 20, with square and other polygonal cross-sectional shapes being contemplated.

Preferably the housing body 12 is separable, including a core portion 12' that holds the test element 16 together with the flag member 24 and its associated hardware, the designation 12 pertaining to an outer body portion having the flange portions 44 and the lip 52 formed thereon. As shown in FIGS. 3 and 4, the first openings 38 are formed in the core portion 12'. Also, a bail member 56 is pivotally connected at the top of the core portion 12' for facilitating removal thereof axially from the top of the body 12 when the main cap 54 is removed, the cap 54 having snap-engagement with a cap lip 58 that is spaced above the skirt lip 52 on the outer body 12. Thus the core portion 12' can be removed from the main body portion 12 and inspected without disturbing either the body 12 or the barrier members 42 that are retained thereby. As further shown in FIG. 4, the enlarged cavity portion 14' can extend through a side wall 20' of the core portion 12', the side wall 20' not having the vertically spaced entrance passages 18 formed therein. However, the main body portion 12 is provided with counterparts of the flange portions 44 and the barrier member 42 facing the side wall 20'. In the alternative of the housing body 12 having the core portion 12' being integrally formed, the enlarged cavity portion 14' can be open to the outside, being covered by one of the barrier members 42.

Although the present invention has been described in considerable detail with reference to certain preferred versions thereof, other versions are possible. For example, The housing body 12 can have a generally circular cross-section, a single tubular member being substituted for the barrier members 42. Also, the stop member 22 can be configured for snap-engagement with the anchor ledge 36, the body 12 being formed without the enlarged cavity portion 14'.

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Therefore, the spirit and scope of the appended claims should not necessarily be limited to the description of the preferred versions contained herein.

What is claimed is:

1. Apparatus for signaling a cumulative amount of weakening of a test material resulting from exposure to a hazardous environment, comprising:

- (a) a body;
- (b) a test element supported relative to the body and comprising the test material;
- (c) means for controllably exposing the test element to the hazardous environment;
- (d) means for applying a load force to the test element, the load force being effective for displacing a portion of the test element when there is a predetermined amount of weakening of the test element;
- (e) a flag member movably supported relative to the body and coupled to the test element for movement in projecting relation to the body when the test element is weakened to the predetermined amount.

2. The apparatus of claim 1, wherein the means for controllably exposing comprises the body having a cavity for enclosing the test element, a side wall of the body having an opening therein for communicating with the hazardous environment.

3. Apparatus for detecting the presence and eating activity of organisms that damage structures by consuming portions thereof, the apparatus comprising:

- (a) a body;
- (b) a bait element supported relative to the body and comprising a consumable structural material;
- (c) means for controllably exposing the bait element to the organisms;
- (d) means for applying a load force to the bait element, the load force being effective for displacing a portion of the bait element when there is a predetermined amount of weakening of the bait element;
- (e) a flag member movably supported relative to the body and coupled to the bait element for movement in projecting relation to the body when the bait element is weakened to the predetermined amount by the organisms.

4. The apparatus of claim 3, wherein the exposing means comprises the body having a cavity for enclosing the bait element, a side wall of the body having an entrance passage formed therein for admitting the organisms.

5. The apparatus of claim 4, wherein the exposing means further comprises a barrier member covering the entrance passage, the barrier member being formed of a sheet of consumable porous material.

6. The apparatus of claim 5, wherein the sheet of consumable porous material is perforated for enhancing communication with the entrance passage.

7. The apparatus of claim 5, wherein the consumable material of the barrier member is selected from the group consisting of balsa wood, pine, and cardboard.

8. The apparatus of claim 5, wherein the body comprises an outer portion and a telescopically separable core portion, the bait element and the flag member being supported within the core portion, the sheet of consumable porous material being connected to the outer portion.

9. The apparatus of claim 4, wherein the entrance passage extends between a first opening in an outwardly facing surface of the side wall and a second opening in an inwardly facing surface of the side wall, the first opening having a first

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area, the second opening having a second area being less than the first area, the passage smoothly tapering between the first area and the second area.

10. The apparatus of claim 4, wherein the body forms an elongate housing having respective bottom and top extremities, the entrance passage being one of a vertically spaced plurality of entrance passages, and a consumable porous barrier member covering each of the entrance passages.

11. The apparatus of claim 10, wherein the entrance passages and the barrier member are on a first face of the body, the body also including a second face having counterparts of the entrance passages and the barrier member.

12. The apparatus of claim 3, wherein the means for applying a load force comprises a first coupling for anchoring one end to the bait element to the body, a second coupling for connecting an opposite end of the bait element, and a spring for applying tensile load to the bait element through the second coupling.

13. The apparatus of claim 12, wherein the flag member is connected to the second coupling.

14. The apparatus of claim 3, wherein the bait element has a bait substance applied thereto.

15. The apparatus of claim 3, wherein the bait element is a wood member.

16. The apparatus of claim 3, wherein the bait element is a cardboard member.

17. A method for monitoring a predetermined cumulative eating activity of organisms on a bait member, comprising:

- (a) providing a housing body having an elongate cavity and a side wall passage;
- (b) anchoring one end of the bait member to the body with the bait member extending within the cavity;
- (c) connecting a flag member to an opposite end of the bait member with the flag member extending to approximate a flag opening of the body;
- (d) connecting a spring member between the flag member and the housing body for tensioning the bait member;
- (e) placing the housing body in a medium subject to infestation by the organisms with the side wall passage being accessible by the organisms and the flag opening being located outside the medium; and
- (f) periodically observing the housing body for display to the flag member in an extended position thereof.

18. The method of claim 17, further comprising interposing a consumable porous barrier between the medium and the side wall passage for preventing the medium from contacting the bait member.

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19. Apparatus for detecting the presence and eating activity of organisms that damage structures by consuming portions thereof, the apparatus comprising:

- (a) a body forming an elongate housing having respective bottom and top extremities;
- (b) a bait element supported relative to the body and comprising a wood member having a bait substance applied thereto;

(c) means for controllably exposing the bait element to the organisms, comprising the body having a cavity for enclosing the bait element, a side wall of the body having a vertically spaced plurality of entrance passages formed therein for admitting the organisms, the entrance passages extending between a first opening in an outside surface of the side wall and a second opening in an inside surface of the side wall, the first opening having a first area, the second opening having a second area being less than the first area, the passages smoothly tapering between the first area and the second area, a consumable porous barrier member covering each of the entrance passages, the entrance passages and the barrier member being on a first face of the body, the body also including a second face having counterparts of the entrance passages and the barrier member;

(d) means for applying a load force to the bait element, comprising a first coupling for anchoring one end to the bait element to the body, a second coupling for connecting an opposite end of the bait element, and a spring for applying tensile load to the bait element through the second coupling, the load force being effective for displacing a portion of the bait element when there is a predetermined amount of weakening of the bait element;

(e) a flag member movably supported relative to the body and connected to the second coupling for movement in projecting relation to the body when the bait element is weakened to the predetermined amount by the organisms.

20. The apparatus of claim 19, wherein the bait element has a bait substance applied thereto.

21. The apparatus of claim 19, wherein the bait element is a wood member.

22. The apparatus of claim 19, wherein the bait element is a cardboard member.

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23. A method for monitoring structural weakening of a material disposed within a body to be placed at least partially in soil, the weakening resulting from exposure to subterranean organisms, the method comprising:

applying a force to the material, the force being effective to cause a displacement of at least a portion of the material when there is a weakening of the material;

providing a passageway through at least a portion of the body from the soil toward the material, wherein the passageway is enclosed by one or more sidewalls, the passageway being dimensioned to permit travel of the subterranean organisms from the soil toward the material and being tapered from a wide end proximate to the soil to a narrow end proximate to the material, whereby the passageway directs the subterranean organisms toward a specific portion of the material where the subterranean organisms can cause a weakening of the material; and

in response to the displacement, signaling the weakening of the material resulting from its exposure to the subterranean organisms.

24. The method of claim 23, further comprising:

limiting exposure of the material to the soil while permitting exposure of the material to the subterranean organisms.

25. The method of claim 23, wherein the passageway is tapered substantially linearly.

26. The method of claim 23, wherein the signaling step comprises:

ejecting at least a portion of a flag from the body.

27. The method of claim 23, further comprising:

providing an annular-shaped skirt around the body near an end of the body distal from the soil, the skirt covering the ground in an area around the body, whereby the skirt provides a moisture barrier around the body and thereby enhances the attractiveness of the material to the subterranean organisms.

28. The method of claim 23, further comprising:

providing an outer housing around the body, the outer housing having an opening for permitting access of the subterranean organisms to the passageway.

29. The method of claim 23, wherein the body has an elongate shape in a direction transverse to the direction in which the device is oriented in the soil.

30. A device for signaling the presence of a material-consuming organism, the device comprising:

a body having an outer wall;

a material consumable by the organism, the material disposed within the body;

an opening in the wall, the opening dimensioned to permit the organism to fit through the opening;

a passage in the body extending at least partially between the opening and the material, the passage having a sidewall enclosing the passage, the passage dimensioned to permit the organism to travel through the passage to reach the material, wherein the sidewall is tapered from a wide end distal to and a narrow end proximate to the material, whereby the tapered sidewall directs the organism to a specific portion of the material where the organism can consume the material and thereby cause a structural weakening of the material; and

a spring in tension with the material so as to apply a force to the material, the force being sufficient to cause a displacement of at least a portion of the material when there is a structural weakening of the material, the displacement effectuating an indication of the presence of the organism in the device.

31. The device of claim 30, wherein the sidewall is tapered substantially linearly.

32. The device of claim 30, further comprising:

a barrier disposed between the outer wall and the material, the barrier being at least partly effective in excluding soil particles from entering the passage but not excluding the organism from entering the passage.

33. The device of claim 32, wherein the barrier comprises perforations.

34. The device of claim 33, wherein the material consumable by the organism emits an odor attractive to the organism, the perforations enhancing communication of the odor out of the device.

35. The device of claim 32, wherein the barrier is porous.

36. The device of claim 30, further comprising:

a flag coupled to the material for movement in projecting relation to the body in a direction away from the soil in response to the displacement.

37. The device of claim 30, further comprising:

an annulus-shaped skirt disposed around the body near a top of the body for placement above ground.

38. A device for signaling presence of a material-consuming organism, the device comprising:

a body housing having an outer wall defining an inner cavity;

a body core, separable from the body housing, disposed within the inner cavity in a removably telescopic orientation;

a material consumable by the organism, the material being disposed within the body core;

an opening through the outer wall of the body housing, the opening dimensioned so that the organism can fit through the opening and reach the material,

whereby the organism can consume the material and thereby cause a structural weakening of the material; and

a spring in tension with the material so as to apply a force to the material, the force being sufficient to cause a displacement of at least a portion of the material upon structural weakening of the material, the displacement effectuating an indication of the presence of the organism in the device.

39. The device of claim 38, further comprising:

a barrier disposed outside the body core, the barrier being substantially impervious to soil but not impervious to the organism.

40. The device of claim 39, wherein the barrier comprises perforations.

41. The device of claim 40 wherein the material consumable by the organism emits an odor attractive to the organism, the perforations enhancing communication of the odor out of the device.

42. The device of claim 39, wherein the barrier is porous.

43. The device of claim 39, wherein the barrier is separable from the body housing and the body core and is removably insertable therebetween.

44. The device of claim 39, wherein the barrier is consumable by the organism.

45. The device of claim 38, further comprising:

a passage formed on the body core and extending at least partially between the opening and the material consumable by the organism when the body core is engaged within the body housing, the passage having a sidewall, the passage dimensioned to permit the organism to travel through the passage toward the material.

46. The device of claim 45, wherein the sidewall of the passage is tapered from a wide end distal to and a narrow end proximate to the material consumable by the organism, whereby the tapered sidewall of the passage directs the organism to a specific location on the material for consumption.

47. The device of claim 46, wherein the sidewall is tapered substantially linearly.

48. The device of claim 38, further comprising:

a flag coupled to the material for movement in projecting relation to the body core in response to the displacement.

49. The device of claim 38, further comprising:

an annulus-shaped skirt disposed around the housing body near a top end of the housing body.



50. A device for signaling presence of a material-consuming organism, the device comprising:

a body housing having an outer wall defining an inner cavity, the outer wall comprising an opening dimensioned so that the organism can fit through the opening;

a body core within the body housing, the body core substantially filling the cavity, the body core comprising a radial passage, a front face of which overlapping the opening, the passage dimensioned so that the organism can fit through the passage;

a material consumable by the organism within the body core, whereby the organism can reach the material by traveling through the opening and the passage, and whereby the organism can consume the material and thereby cause a structural weakening of the material; and

a spring in tension with the material so as to apply a force to the material, the force being sufficient to cause a displacement of at least a portion of the material when there is a structural weakening of the material, the displacement effectuating an indication of the presence of the organism in the device.

51. The device of claim 50, wherein the outer wall is approximately cylindrical in shape.

52. The device of claim 50, wherein the material and the spring are approximately centered about a central vertical axis of the device.

53. The device of claim 50, further comprising:

a barrier disposed outside the body core, the barrier being substantially impervious to soil but not impervious to the organism.

54. The device of claim 53, wherein the barrier comprises perforations.

55. The device of claim 54 wherein the material consumable by the organism emits an odor attractive to the organism, the perforations enhancing communication of the odor out of the device.

56. The device of claim 53, wherein the barrier is porous.

57. The device of claim 53, wherein the barrier is consumable by the organism.

58. The device of claim 50, wherein the passage has a sidewall that is tapered from a wide end distal to and a narrow end proximate to the material consumable by the organism, for directing the organism to a specific location on the material for consumption.

59. The device of claim 58, wherein the sidewall is tapered substantially linearly.

60. The device of claim 50, further comprising:

a flag coupled to the material for movement in projecting relation to the body core in response to the displacement.

61. The device of claim 50, further comprising:

an annulus-shaped skirt disposed around the body housing near a top end of the body housing.

62. A device for signaling the presence of material-weakening organisms, the device comprising:

a body having an exterior wall;

an opening, in the exterior wall of the body, dimensioned to permit the organisms to fit through;

a cavity within the body, the cavity having an interior wall, the cavity being substantially smaller than the body;

an opening, in the interior wall of the cavity, dimensioned to permit the organisms to fit through;

a material disposed within the cavity; wherein the organisms, when in contact with the material, cause a structural weakening of the material;

a spring in tension with the material so as to apply a force to the material, the force being sufficient to cause a displacement of at least a portion of the material when there is a structural weakening of the material, the displacement effectuating an indication of presence of the organisms in the device.

63. The device of claim 62, further comprising:

a passage in the body extending at least partially between the opening in the exterior wall of the body and the opening in the interior wall of the cavity, the passage dimensioned to permit the organisms to travel through the passage.

64. The device of claim 62, wherein the opening in the interior wall of the cavity is smaller than the opening in the exterior wall of the body.

65. The device of claim 62, further comprising:

a barrier disposed outside of the opening in the interior wall of the cavity.

66. The device of claim 65, wherein the barrier comprises perforations.

67. The device of claim 66, wherein the material disposed within the cavity emits an odor attractive to the organisms, and the perforations enhance communication of the odor out of the device.

68. The device of claim 62, further comprising:

a flag coupled to the spring, the flag moving in projecting relation to the body in response to the displacement.

69. The device of claim 62, further comprising:

an annulus-shaped skirt disposed around the body near an end of the body.

70. A device for signaling the presence of subterranean material-weakening organisms in soil, the device comprising:

a body, having an exterior wall, for at least partial submersion in soil leading with a bottom end of the body, the body having a top end opposite from the bottom end;

an opening, in the exterior wall of the body, dimensioned to permit the organisms to fit through;

a material disposed within the body; wherein the organisms, when in contact with the material, cause a structural weakening of the material;

a cavity within the body, the cavity being substantially smaller than the body, the cavity being near the top end of the body;

a spring disposed within the cavity, the spring being held in tension by the material such that a structural weakening of the material causes an end of the spring to undergo a displacement, the displacement effectuating an indication of presence of the organisms in the device.

71. The device of claim 70, wherein the body is generally elongate in shape from the top end to the bottom end.

72 . The device of claim 70, further comprising:

a second cavity within the body, the second cavity being substantially smaller than the body, the second cavity containing the material, the second cavity having an interior wall, the interior wall having an opening dimensioned to permit the organisms to fit through;

73 . The device of claim 72, further comprising:

a passage in the body extending at least partially between the opening in the exterior wall of the body and the opening in the interior wall of the second cavity, the passage dimensioned to permit the organisms to travel through the passage.

74 . The device of claim 72, wherein the opening in the interior wall of the cavity is smaller than the opening in the exterior wall of the body.

75 . The device of claim 70, further comprising:

a barrier disposed outside of the material.

76 . The device of claim 75, wherein the barrier comprises perforations.

77 . The device of claim 76, wherein the material disposed within the cavity emits an odor attractive to the organisms, and the perforations enhance communication of the odor out of the device.

78 . The device of claim 70, further comprising:

a flag coupled to the spring, the flag moving in projecting relation to the body  
in response to the displacement.

79 . The device of claim 70, further comprising:

an annulus-shaped skirt disposed around the body near an end of the body.